



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 9, 63 and 65**

**[EPA-HQ-OAR-2003-0146, EPA-HQ-OAR-2010-0870, EPA-HQ-OAR-2011-0002; FRL-9502-9]**

**RIN 2060-AP84**

**National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries; National Uniform Emission Standards for Heat Exchange Systems**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** This action proposes amendments to the heat exchange system requirements of the national emission standards for hazardous air pollutants (NESHAP) for petroleum refineries in response to a petition for reconsideration filed by the American Petroleum Institute on the maximum achievable control technology standards we promulgated on October 28, 2009. We also are creating national uniform standards for heat exchange systems, largely based on the heat exchange system provisions that we adopted for petroleum refineries, and accompanying general provisions. We are proposing to revise the existing Petroleum Refinery NESHAP to cross-reference the uniform standard to allow an alternative option for complying with the standards for heat exchange systems. The proposed uniform standards would allow

refiners to reduce monitoring frequency and burden by meeting a lower leak definition. If finalized, these national uniform standards would also be referenced, as appropriate, as we revise in the future NESHAP or new source performance standards for individual source categories that have heat exchange systems. Establishing a uniform standard for heat exchange systems is consistent with the objectives of Executive Order 13563, Improving Regulation and Regulatory Review, issued on January 18, 2011. We are also proposing other clarifications and technical corrections to the Petroleum Refineries NESHAP.

**DATES:** Comments. Written comments must be received on or before **[INSERT DATE 60 DAYS FROM DATE OF PUBLICATION]**.

Public Hearing. If anyone contacts the EPA by **[INSERT DATE 15 DAYS FROM DATE OF PUBLICATION]** requesting to speak at a public hearing, a public hearing will be held on **[INSERT DATE 30 DAYS FROM DATE OF PUBLICATION]**.

**ADDRESSES:** All technical comments pertaining to the petroleum refinery amendments (40 CFR part 63, subpart CC) should be marked "Attention Docket ID No. EPA-HQ-OAR-2003-0146." All technical comments pertaining to the Heat Exchange System Uniform Standards (40 CFR part 65, subpart L) should be marked "Attention Docket ID No. EPA-HQ-OAR-2011-0002." Comments regarding the proposed Uniform Standards General Provisions (40 CFR part 65, subpart H) or comments that are applicable to the

uniform standards approach, such as general policy or legal comments, should be marked "Attention Docket ID No. EPA-HQ-OAR-2010-0870." Submit your comments, identified by the appropriate Docket ID No., by one of the following methods:

- [www.regulations.gov](http://www.regulations.gov): Follow the on-line instructions for submitting comments.
- Email: Comments may be sent by electronic mail (email) to [a-and-r-Docket@epa.gov](mailto:a-and-r-Docket@epa.gov), Attention Docket ID No. EPA-HQ-OAR-2003-0146; EPA-HQ-OAR-2011-0002; or EPA-HQ-OAR-2010-0870 (as appropriate).
- Fax: Fax your comments to: (202) 566-9744, Attention Docket ID No. EPA-HQ-OAR-2003-0146; EPA-HQ-OAR-2011-0002; or EPA-HQ-OAR-2010-0870 (as appropriate).
- Mail: Send your comments to: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mail Code: 2822T, 1200 Pennsylvania Ave., NW, Washington, DC 20460, Attention Docket ID No. EPA-HQ-OAR-2003-0146; EPA-HQ-OAR-2011-0002; or EPA-HQ-OAR-2010-0870 (as appropriate). Please include a total of two copies. We request that a separate copy also be sent to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT**).
- Hand Delivery: In person or by courier, deliver comments to: EPA Docket Center, Room 3334, 1301

Constitution Avenue, NW, Washington, DC 20004,  
Attention Docket ID No. EPA-HQ-OAR-2003-0146; EPA-HQ-OAR-2011-0002; or EPA-HQ-OAR-2010-0870 (as appropriate). Such deliveries are accepted only during the Docket's normal hours of operation and special arrangements should be made for deliveries of boxed information. Please include a total of two copies.

Instructions: All submissions must include agency name and docket number or Regulatory Information Number (RIN) for this rulemaking. Direct your comments to Docket ID No. EPA-HQ-OAR-2003-0146, EPA-HQ-OAR-2011-0002, or EPA-HQ-OAR-2010-0870 (as appropriate). The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at [www.regulations.gov](http://www.regulations.gov), including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through [www.regulations.gov](http://www.regulations.gov) or email. The [www.regulations.gov](http://www.regulations.gov) website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through [www.regulations.gov](http://www.regulations.gov), your email address will be

automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption and be free of any defects or viruses.

Docket: All documents in the dockets are listed in the [www.regulations.gov](http://www.regulations.gov) index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in [www.regulations.gov](http://www.regulations.gov) or in hard copy at the EPA Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation Docket is (202) 566-1742.

**FOR FURTHER INFORMATION CONTACT:** Ms. Brenda Shine, Sector Policies and Programs Division (E143-01), Office of Air Quality Planning and Standards, Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-3608; fax number: (919) 541-0246; email address: shine.brenda@epa.gov.

**SUPPLEMENTARY INFORMATION:**

The information in this preamble is organized as follows:

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- C. Regulatory Flexibility Act
- D. Unfunded Mandates Reform Act
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- F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments
- G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks
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## I. General Information

### A. Does this action apply to me?

The regulated category and entities potentially affected by this proposed action include:

Category	NAICS <sup>1</sup> Code	Examples of Regulated Entities
Industry . . .	324110	Petroleum refineries located at a major source that are subject to 40 CFR part 63, subpart CC.

<sup>1</sup> North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be potentially affected by this action. To determine whether your petroleum refinery would be regulated by this action, you should carefully examine the applicability criteria in 40 CFR 63.640 of subpart CC (National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries). If you have any questions regarding the applicability of this action to a particular entity, contact either the air permit authority for the entity

or your EPA regional representative, as listed in 40 CFR 63.13 of subpart A (General Provisions).

The provisions of the proposed uniform standards would apply initially only to the facilities subject to 40 CFR part 63, subpart CC (petroleum refineries), which are the subject of this rulemaking. However, we expect in future rulemaking actions to propose that new source performance standards (NSPS) and NESHAP for other source categories will also reference and require compliance with uniform standards, as appropriate. Examples of categories and entities potentially affected in the future by the proposed uniform standards for heat exchange systems include:

Category	NAICS <sup>1</sup> Code	Examples of Regulated Entities
Industry . . .	325	Manufacturing industries, particularly petrochemical, chemical, polymers, plastics and specialty chemicals manufacturing

<sup>1</sup> North American Industry Classification System.

This table is not intended to be exhaustive; rather, it provides a guide for readers regarding entities the EPA anticipates are likely to be potentially affected by this action through a future, separate rulemaking action. The entities listed in the above table are not affected by this action unless and until the EPA proposes in a separate notice to apply the uniform standards for heat exchange systems to a specific source category. The list of categories and entities potentially

affected by this proposed action in the future is provided solely to inform owners and operators of facilities in those categories of the potential for future rulemaking and to solicit comments from these entities at this time. If, in a future rulemaking, the EPA proposes to apply these uniform standards to a particular source category, you would have another opportunity to comment on the specific application to your industry. Because we feel that establishing uniform standards for types of equipment found in a variety of industries will be efficient for facilities, state, local and tribal governments and the public, we seek broad input at this time. In the future, you would determine whether your facility, company, business or organization would be regulated by a proposed action by examining the applicability criteria in the referencing subpart. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permitting authority for the entity or your EPA regional representative, as listed in the referencing subpart.

B. What should I consider as I prepare my comments for the EPA?

Submitting CBI. Do not submit information containing CBI to the EPA through [www.regulations.gov](http://www.regulations.gov) or email. Send or deliver information as CBI only to the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, U.S. EPA Mailroom (C404-02), Attn: Mr. Roberto

Morales, Document Control Officer, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711, Attention Docket ID No. EPA-HQ-OAR-2003-0146; EPA-HQ-OAR-2011-0002; or EPA-HQ-OAR-2010-0870 (as appropriate). Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD-ROM that you mail to the EPA, mark the outside of the disk or CD-ROM as CBI, and then identify electronically within the disk or CD-ROM the specific information that is claimed as CBI. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket.

C. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the World Wide Web through the Technology Transfer Network (TTN).

Following signature, a copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address:

<http://www.epa.gov/ttn/oarpg/>. The TTN provides information and technology exchange in various areas of air pollution control.

The EPA has created a redline document comparing the existing regulatory text of 40 CFR part 63, subpart CC and the proposed amendments to aid the public's ability to comment on the regulatory text. This document has been placed in the docket for this rulemaking (Docket ID No. EPA-HQ-OAR-2003-0146).

D. When would a public hearing occur?

If anyone contacts the EPA requesting to speak at a public hearing concerning the proposed amendments by **[INSERT DATE 15 DAYS FROM DATE OF PUBLICATION]**, we will hold a public hearing on **[INSERT DATE 30 DAYS FROM DATE OF PUBLICATION]**. If you are interested in attending the public hearing, contact Brenda Shine at (919) 541-3608 to verify that a hearing will be held. If a public hearing is held, it will be held at 10 a.m. at the EPA's Environmental Research Center Auditorium, Research Triangle Park, NC, or an alternate site nearby.

**II. Background Information**

A. General Background

In this action, we are proposing as "uniform standards" control requirements for hydrocarbon emissions from heat exchange systems, including emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP). The proposed uniform standards reflect the EPA's regulatory experience from previous NESHAP and NSPS rulemakings involving similar kinds of sources and emission points, and they incorporate our review of

the most current technology and emission reduction practices, as detailed in section IV.B of this preamble. These proposed uniform standards would be set forth in a newly created subpart L to 40 CFR part 65 and would then be referenced, as appropriate, from NSPS or NESHAP for individual source categories. The uniform standards would not apply to a source category addressed in an NSPS or NESHAP until the EPA completes a notice-and-comment rulemaking to make it apply to that source category. Thus, if this rulemaking is finalized, the uniform standard would apply, at that time only, to petroleum refineries under 40 CFR Part 63, subpart CC. We anticipate undertaking additional rulemakings in the future to propose that subpart L apply to other NSPS and NESHAP. This action is consistent with the EPA's interest in promoting efficient use of public and private sector resources and in improving consistency, compliance and enforceability of NSPS and NESHAP standards, consistent with Executive Order 16563. Additional details about the purpose and benefits of proposing uniform standards are provided in section IV.B of this preamble.

As stated above, in this action we are also proposing to amend 40 CFR part 63, subpart CC to remove the detailed requirements and, instead, reference these requirements as they would be included in the newly created 40 CFR part 65, subpart L. Finally, we are proposing clarifications to 40 CFR part 63,

subpart CC. The statutory authority for the portion of this proposal concerning the refinery MACT standard is contained in section 112 of the Clean Air Act (CAA), while the authority for the uniform standards is provided by sections 111 and 112 of the CAA, as amended (42 U.S.C. 7401, 7411, 7412, 7414, 7416 and 7601).

B. What is the statutory authority and regulatory background for this proposal?

1. Amendments to 40 CFR Part 63, Subpart CC

Section 112 of the CAA lists HAP and directs the EPA to develop rules to address emissions of HAP from stationary sources. After the EPA has identified categories of sources emitting one or more of the HAP listed in section 112(b) of the CAA, section 112(d) calls for us to promulgate NESHAP for those sources. For "major sources" that emit or have the potential to emit any single HAP at a rate of 10 tons or more per year, or any combination of HAP at a rate of 25 tons or more per year, these technology-based standards must reflect the maximum reductions of HAP achievable (after considering cost, energy requirements and non-air quality health and environmental impacts), and are commonly referred to as maximum achievable control technology (MACT) standards.

For MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as floor

requirements. See CAA section 112(d)(3). Specifically, for new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT, we must also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts and energy requirements.

We published the final MACT standards for petroleum refineries (40 CFR part 63, subpart CC) on August 18, 1995 (60 FR 43620). These standards are commonly referred to as the "Refinery MACT 1" standards because certain process vents were excluded from this source category and subsequently regulated under a second MACT standard specific to these petroleum refinery process vents (40 CFR part 63, subpart UUU, referred to as "Refinery MACT 2"). We published final MACT standards for heat exchange systems at petroleum refineries in amendments to

Refinery MACT 1 on October 28, 2009 (74 FR 55670). This action proposes amendments to 40 CFR part 63, subpart CC for heat exchange systems at petroleum refineries, and does not amend 40 CFR part 63, subpart UUU.

## 2. Uniform Standards

This action proposes uniform standards for heat exchange systems (40 CFR part 65, subpart L). We are proposing to establish the uniform standards under 40 CFR part 65 and anticipate, through future notice-and-comment rulemaking, to cross-reference subpart L from source category emission standards within at least two different parts of title 40 of the CFR, parts 60 and 63, which establish NSPS and MACT standards according to CAA sections 111 and 112, respectively.

Section 111 of the CAA requires that NSPS reflect the application of the best system of emission reductions that (taking into consideration the cost of achieving such emission reductions, any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. This level of control is commonly referred to as best demonstrated technology (BDT). Section 111(b)(1)(B) of the CAA requires the EPA to periodically review, and, as appropriate, revise the standards of performance to reflect improvements in methods for reducing emissions.

Once the EPA has established MACT standards for source categories under CAA section 112(d), as described in section II.A.1 of this preamble, the EPA is required to review these technology-based standards and to revise them "as necessary (taking into account developments in practices, processes, and control technologies)" no less frequently than every 8 years, under CAA section 112(d)(6).

Under CAA section 112(d)(5), we may elect to promulgate standards or requirements for area sources "which provide for the use of generally available control technologies or management practices (GACT) by such sources to reduce emissions of hazardous air pollutants." Additional information on GACT is found in the Senate report on the legislation (Senate Report Number 101-228, December 20, 1989), which describes GACT as:

\* \* \* methods, practices, and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories that may have many small businesses.

Uniform standards would be referenced, as appropriate, by future NESHAP for major or area source categories in new proposed 40 CFR part 63 subparts or revisions to existing individual subparts in 40 CFR part 61 and 40 CFR part 63. Additionally, we expect to promulgate or revise NSPS in individual subparts in 40 CFR part 60 in the future, which would reference, as appropriate, promulgated uniform standards. The rationale for each determination of whether the uniform standards in proposed 40 CFR part 65, subpart L are consistent with the applicable statutory requirements for which we were undertaking rulemaking action would be presented in that rulemaking for the individual source category. At that time, the public would be provided with an opportunity to comment on whether the specific requirements of the uniform standards should apply, as promulgated, or should be revised for purposes of the specific source category at issue in that rulemaking action. For example, if the uniform standards for heat exchange systems are finalized, then, when reviewing NSPS for a specific source category that includes heat exchange systems, we would consider whether the uniform standards include the current best demonstrated technology for heat exchange systems in that source category and the public would be provided an opportunity to comment on our proposed conclusion that either the uniform standards or alternative standards are the best demonstrated

technology. Additionally, we would evaluate and take comment on whether the recordkeeping, reporting and other requirements were appropriate. If we take final action determining for that source category that the uniform standard is the best demonstrated technology, we would amend the NSPS to reference the uniform standards rather than duplicating the requirements in the section of the CFR addressing the NSPS for that source category.

C. What source category is affected by this action?

This action directly affects only the petroleum refineries source category. Petroleum refineries are facilities engaged in refining and producing products made from crude oil or unfinished petroleum derivatives. Based on the Energy Information Administration's Refinery Capacity Report 2009, there are 152 operable petroleum refineries in the United States (U.S.) and the U.S. territories, all of which are expected to be major sources of HAP and VOC emissions. Petroleum refineries are located in 35 states, as well as Puerto Rico and the U.S. Virgin Islands. Texas, Louisiana and California are the states with the most petroleum refining capacity (with 27 percent, 18 percent and 11 percent of U.S. capacity, respectively).<sup>1</sup>

This action specifically affects heat exchange systems at petroleum refineries. Heat exchange systems include closed-loop

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<sup>1</sup> Energy Information Administration, Refinery Capacity Data, From Form EIA-820, Annual Refinery Report, January, 2011.

recirculation systems with cooling towers and once-through systems that receive non-contact cooling water from a heat exchanger for the purposes of cooling the water prior to returning the water to the heat exchanger or discharging the water to another process unit, waste management unit, or to a receiving water body. Cooling towers typically at refineries and chemical plants employ mechanical draft cooling towers that use large fans to force air through or across the cooling water to cool the water. Heat exchangers occasionally develop leaks which result in process fluids entering the cooling water. The hydrocarbons (which may include VOC and air toxics) in these process fluids are then emitted to the atmosphere due to stripping. Cooling tower emissions resulting from the addition of chemicals to the cooling water to prevent fouling or to decontaminate the water are not covered by this standard, but are instead covered under the Industrial Process Cooling Tower NESHAP (40 CFR part 63, subpart Q).

This action may affect other source categories with heat exchange systems if the EPA takes action in the future to propose to apply the uniform standards for heat exchange systems to one or more other source categories. However, EPA will determine applicability of the uniform standards for heat exchange systems in another source category through notice-and-comment rulemaking. In such a rulemaking, we will explain that

all or a portion of subpart L is consistent with the CAA requirements at issue in such rulemaking. For example, in the context of an NSPS rulemaking, we could determine that subpart L is BDT for the source category at issue or, alternatively, we could determine that different emission standards should apply, but that recordkeeping, reporting and other requirements of subpart L are appropriate. As another example, for heat exchange systems in a source category already subject to regulation (e.g., facilities subject to National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry ("HON," 40 CFR part 63, subpart F)), a review of the existing requirements may result in a determination that the subpart L requirements constitute a development in processes, practices or control technologies since the original standard was issued. Before amending any specific standard to reference 40 CFR part 65, subpart L, we would evaluate the appropriateness of the subpart L requirements for the source category in light of the specific statutory obligation(s) at issue, and, if the subpart L requirements are appropriate, cross-reference those standards. As previously noted, any such evaluation would take place through notice-and-comment rulemaking.

D. What is the EPA's response to petitions for reconsideration on Refinery MACT 1 (40 CFR part 63, subpart CC)?

As mentioned previously in this preamble, we published final MACT standards for heat exchange systems at petroleum refineries in amendments to Refinery MACT 1 on October 28, 2009 (74 FR 55670). On December 23, 2009, the American Petroleum Institute (API) requested an administrative reconsideration under CAA section 307(d)(7)(B) of certain provisions of 40 CFR part 63, subpart CC that they had identified in an April 7, 2009, letter to the EPA. Specifically, API requested that the EPA reconsider: (1) The compliance schedule and applicability provisions in 40 CFR 63.640(h); (2) the definition of "heat exchange system" in 40 CFR 63.641 as it relates to once-through heat exchange systems and refinery process units; (3) the monitoring procedures for once-through heat exchange systems in 40 CFR 63.654(c); (4) the determination of the cooling water flow rate in 40 CFR 63.654(g); (5) the overlap provisions for storage vessels in 40 CFR 63.640(n); (6) the deck fitting control requirements for storage vessel internal floating roofs in 40 CFR 63.646; (7) reports required for storage vessels also subject to 40 CFR part 61, subpart Y; (8) the definition of "heat exchange system" in 40 CFR 63.641 as it relates to cooling towers; (9) the monitoring procedures for once-through heat exchange systems in 40 CFR 63.654(e); and (10) the application of the rule to heat exchanger systems which use salt water. In

addition, API identified eight incorrect references and other typographical errors that they requested the EPA correct.

In this action, the EPA is granting reconsideration on petitioner's Issues Nos. 2, 3 and 4. In addition, with regard to petitioner's Issue No. 1, we are granting reconsideration on the use of the promulgation date to describe the applicability for new sources in 40 CFR 63.640(h)(1). Section 307(d)(7)(B) of the CAA provides that the EPA shall convene a proceeding to reconsider a rule if a person raising an objection can demonstrate: (1) That it was impracticable to raise the objection during the comment period, or that the grounds for such objection arose after the comment period, but within the time specified for judicial review (i.e., within 60 days after publication of the final rulemaking notice in the **Federal Register**), and (2) that the objection is of central relevance to the outcome of the rule. We are granting reconsideration on these specific issues because the grounds for petitioner's objections arose after the public comment period (but within the time specified for judicial review) and the objections are of central relevance to the outcome of the final rule pursuant to CAA section 307(d)(7)(B).

The EPA is denying API's request for reconsideration on petitioner's Issue Nos. 5, 6 and 7 identified in the previous paragraph, and on the incorrect references and other

typographical errors that were identified in sections describing specific requirements for storage vessels. The regulatory text that API reviewed when developing their April 7, 2009, letter was included in a final rule that was signed, but never published in the **Federal Register**. On October 28, 2009, the EPA proposed to withdraw the portions of that signed rule that includes the regulatory text identified in Issue Nos. 5, 6 and 7 and that included the incorrect references and typographical errors related to storage vessels (see 74 FR 55505). The agency recently published a final action on the proposed withdrawal of the amendments to the Refinery MACT 1 rule storage vessel requirements (see 76 FR 42052, July 18, 2011). Therefore, reconsideration of these provisions is not necessary.

The EPA is also denying API's request for reconsideration of certain language that we finalized as proposed, including:

(1) The definition of "heat exchange system" as it relates to cooling towers (Issue No. 8 above), and (2) the ability to perform additional monitoring to verify that a leak is in a heat exchanger in HAP service at 40 CFR 63.654(e) (Issue No. 9 above). These issues could have been raised during the public comment period for the rule. API did not submit comments on this issue during the comment period on the proposal, nor did API's petition show why these issues could not have been presented during the comment period, either because it was impracticable

to raise the issue during that time, or because the grounds for the issue arose after the comment period. Nevertheless, we did attempt to address some of these issues where we felt it was important to do so.

Similarly, the EPA is denying the request for reconsideration of the application of the rule to heat exchanger systems which use salt water (Issue No. 10 above). The proposed rule language required monitoring for all heat exchange systems in HAP service. API's petition for reconsideration did not explain why suggestions to limit the applicability of the rule to certain types of heat exchange systems were not and could not have been raised during the public comment period.

However, we note that, while we are not granting reconsideration on these issues, the proposed uniform standards in 40 CFR part 65, subpart L and our proposed amendments to the Refinery MACT 1, as described below, do attempt to clarify some of these issues and concerns where it is appropriate to do so.

Finally, the EPA is not granting reconsideration on the miscellaneous incorrect references and other typographical errors that API identified in their petition. We note that four of the incorrect references and other typographical errors identified by API were corrected in a corrections notice published on June 30, 2010 (75 FR 37730). Although we are not granting reconsideration on the remaining incorrect references

and typographical errors identified by API, because these corrections are not issues of central relevance to the outcome of the final rule, we are, nevertheless, proposing to correct those errors in this notice where appropriate.

### **III. Summary of the Proposed Standards and Amendments**

#### **A. What amendments are we proposing for Refinery MACT 1 (40 CFR part 63, subpart CC)?**

##### **1. Structural Changes**

We are proposing to remove from Refinery MACT 1 the general monitoring, delay of repair, recordkeeping, and reporting requirements that we are proposing to add to 40 CFR part 65, subpart L, as described in section III.B of this preamble. In their place, we would include in 40 CFR 63.654 and 40 CFR 63.655 of Refinery MACT 1 cross-references to the requirements as specified in subpart L. Thus, this change would maintain these requirements for heat exchange systems at petroleum refineries, but the specifics of the requirements would be included in a different subpart. We would retain in 40 CFR 63.654 the requirements for heat exchange systems that are specific to the petroleum refining industry. Specifically, Refinery MACT 1 would continue to specify the monitoring frequency and the leak action level for existing and new sources. Refinery MACT would also continue to specify the delay of repair action level. These action levels would continue to be specified in 40 CFR 63.654

because they are specific levels established in our final rule for Refinery MACT 1 sources. 74 FR 55669.

We are proposing to restructure 40 CFR 63.640(h)(1) to remove the reserved paragraphs and renumber the remaining paragraphs. These paragraphs are not directly referenced anywhere else in Refinery MACT 1, so we are not proposing any other amendments related to this restructuring. We are also proposing to reword newly renumbered 40 CFR 63.640(h)(1)(i) and (ii) to clarify that the compliance and applicability dates in those paragraphs refer to the new source at which a heat exchange system is located. These proposed changes address the relevant portions of API's reconsideration Issue No. 1 to clearly reflect our intent regarding the compliance schedule and, specifically, the applicability of new source requirements for heat exchange systems. The previously promulgated language could have been interpreted to mean that heat exchange systems themselves could be considered new sources, which is inconsistent with the description of an affected source at 40 CFR 63.640(c), that includes all emission points located at a single plant site.

We are proposing to clarify the applicability date in 40 CFR 63.640(h)(1)(ii), based on CAA section 112(a)(4), which defines "new source" as a source that commences construction or reconstruction "after the Administrator first proposes

regulations under [section 112] establishing an emission standard applicable to such source." Because the referenced provision applies to new sources, we are proposing to correct the date to be the date we first proposed regulations establishing emissions standards, rather than the compliance date for such standards. These changes also address reconsideration issue No. 1 to clearly and properly reflect our intent with regard to the compliance schedule and applicability provisions.

Finally, we are proposing to add clarity to 40 CFR 63.640(a). Section 63.640(a) states that "[t]his subpart applies to petroleum refining process units and to related emission points specified in paragraphs (c)(5) through (8) of this section..." However, upon review, we have determined that there is not a clear distinction between petroleum refining process units and related emission points. Specifically, paragraph (c)(1) through (4) could also be considered "related emission points." Therefore, we are proposing to revise 40 CFR 63.640(a) to read: "This subpart applies to petroleum refining process units and to related emission points specified in paragraphs (c)(1) through (8) of this section..." As amended, this statement more clearly reflects that Refinery MACT 1 addresses all emissions points described in paragraphs (c)(1) through (8).

We are also proposing to remove the definitions of "cooling tower return line" and "heat exchange exit line" from the Refinery MACT 1 regulations (40 CFR 63.641). All references to these terms would appear in 40 CFR part 65, subpart L, so the definitions are no longer needed in Refinery MACT 1. We note that the phrase "in regulated material service" is defined in Refinery MACT 1 as "in organic HAP service." The proposed uniform standard in subpart L is designed so that both NESHAP and NSPS can point to it. As such, the proposed uniform standard includes a definition of "in regulated material service." However, since the Refinery MACT 1 uses the term, "in organic HAP service," to determine whether certain equipment is subject to the MACT standards, we are retaining that term for refineries and not relying on the more general term in the proposed uniform standard. The existing Refinery MACT 1 definition would continue to apply to heat exchange systems at Refinery MACT 1 sources for determining whether a heat exchange system is in regulated material service.

## 2. Substantive Revisions

Refinery MACT 1 would continue to specify that, when monthly monitoring is conducted, the leak action level for existing sources is 6.2 parts per million by volume (ppmv) total strippable hydrocarbons (as methane) in the stripping gas collected via the Texas Commission on Environmental Quality's

(TCEQ) Modified El Paso Method, Revision Number One, dated January 2003,<sup>2</sup> and the leak action level for new sources is 3.1 ppmv total strippable hydrocarbons (as methane) collected via the Modified El Paso Method. We are also proposing to include alternative leak action levels for direct water sampling. For existing sources, the proposed leak action level is 80 parts per billion by weight (ppbw) of total strippable hydrocarbons in the cooling water collected and analyzed according to either a combination SW-846 Methods 5030B and 8260C<sup>3</sup> or ASTM Method D5790-95<sup>4</sup> and for new sources, the proposed leak action level is 40 ppbw of total strippable hydrocarbons in the cooling water collected and analyzed according to SW-846 Methods 5030B and 8260C or ASTM Method D5790-95. The delay of repair action level would be either 62 ppmv total strippable hydrocarbons (as methane) collected via the Modified El Paso Method, as currently required, or an alternative of 800 ppbw of total strippable

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<sup>2</sup> Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources, Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by TCEQ, January 31, 2003 (incorporated by reference--see §65.265).

<sup>3</sup> SW-846 Method 5030B, Purge-and-Trap for Aqueous Samples, and SW-846 Method 8260C, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, dated December 1996 (incorporated by reference--see §65.265).

<sup>4</sup> ASTM Method D5790-95, Standard Test Method for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry, reapproved 2006, incorporated by reference--see §65.265).

hydrocarbons in the cooling water collected and analyzed according to SW-846 Methods 5030B and 8260C or ASTM Method D5790-95.

Based on an expanded technology review and impacts analysis we performed to determine whether to apply this proposed uniform standard to heat exchange systems at petroleum refineries, we have determined that quarterly monitoring using a lower leak definition would achieve equivalent emissions reductions (see technical memorandum, Revised Impacts for Heat Exchange Systems at Petroleum Refineries, in Docket ID No. EPA-HQ-OAR-2003-0146). Therefore, we are proposing to allow affected facilities an alternative compliance option: To monitor quarterly, using a leak action level of either 3.1 ppmv total strippable hydrocarbons (as methane) in the stripping gas collected via the Modified El Paso Method, or 40 ppbw of total strippable hydrocarbons in the cooling water collected and analyzed according to SW-846 Methods 5030B and 8260C or ASTM Method D5790-95. The owner or operator would select which alternative they will use to monitor each heat exchange system; different monitoring alternatives may be selected for different heat exchange systems at the facility.

In Refinery MACT 1, we finalized a definition of "heat exchange system" as follows, "a device or series of devices used to transfer heat from process fluids to water without

intentional direct contact of the process fluid with the water (i.e., non-contact heat exchanger) and to transport and/or cool the water in a closed-loop recirculation system (cooling tower system) or a once-through system (e.g., river or pond water). For closed-loop recirculation systems, the heat exchange system consists of a cooling tower, all heat exchangers that are serviced by that cooling tower, and all water lines to and from the heat exchanger(s). For once through systems, the heat exchange system consists of one or more heat exchangers servicing an individual process unit and all water lines to and from the heat exchanger(s). Intentional direct contact with process fluids results in the formation of a wastewater." This definition covers both heat exchange systems that recirculate the cooling water within the plant, relying on a cooling tower to cool the water after it has passes through the process areas, as well as once-through systems that bring in cooling water from a water body and then return the water back to the water body after it has passed through the process. We are proposing to revise that definition of "heat exchange system" from what was finalized for Refinery MACT 1 and replace the word "series" with "collection" to avoid any confusion that heat exchangers must be arranged in a series configuration (as opposed to a parallel configuration). This edit was requested in the reconsideration petition (Issue No. 8) and, although we did not grant

reconsideration on it specifically, we believe it is appropriate to clarify the definition to reflect our intent. The proposed definition in the uniform standard (40 CFR part 65, subpart L) includes this same definition.

B. What requirements for heat exchange systems are we proposing to include in 40 CFR part 65, subpart L?

We are proposing to add to 40 CFR part 65 a new subpart L, which would include requirements for monitoring, recordkeeping and reporting for heat exchange systems subject to a facility-specific referencing subpart. These requirements are the same as the monitoring, recordkeeping and reporting requirements issued as part of the revisions to the Refinery MACT 1 standard, which established the MACT floor for heat exchange systems at petroleum refineries (74 FR 55670, October 28, 2009). The preamble to the final rule and the preamble to the supplemental proposal (73 FR 66694, November 10, 2008) provide more detail on the basis for those requirements.

We are proposing default leak action levels, delay of repair action levels and monitoring frequencies in the uniform standards that would apply if the referencing subpart does not specify these details. These default action levels and monitoring frequencies are based on our general technology review for heat exchange systems (see technical memorandum, Technology Review for Heat Exchange Systems, in Docket ID No.

EPA-HQ-OAR-2011-0002) and represent a heat exchange system monitoring program that is expected to be cost effective in a wide variety of applications. The default leak action level is either 3.1 ppmv total strippable hydrocarbons (as methane) in the stripping gas collected via the Modified El Paso Method, or 40 ppbw of total strippable hydrocarbons in the cooling water collected and analyzed according to SW-846 Methods 5030B and 8260C or ASTM Method D5790-95 and the monitoring frequency is quarterly. However, we anticipate that these action levels and the monitoring frequency may vary for heat exchanger systems in different source categories. In those cases, the action levels and monitoring frequencies would be defined in the appropriate referencing subpart.

We are not proposing to specify a compliance timeline in 40 CFR part 65, subpart L because the compliance timeline may vary for different source categories. Instead, we expect that the compliance timeline would be specified in each source-specific subpart whenever that subpart is amended.

We are proposing that owners and operators of heat exchange systems that are "in regulated material service" (as defined by either the referencing subpart, if it provides a definition of that term, or in 40 CFR part 65, subpart L) at an affected source would be required to conduct sampling and analyses using

the Modified El Paso Method, or SW-846 Methods 5030B and 8260C or ASTM Method D5790-95.

We are also including provisions specifying the frequency of sampling and analyses; however, a referencing subpart could specify alternative provisions for the frequency of sampling and analyses which would apply in place of those provisions in 40 CFR part 65, subpart L. For each NSPS or MACT rule that, after notice-and-comment rulemaking, we determine will cross-reference subpart L, this limit would apply unless an alternative limit is established in the cross-referencing subpart through that rulemaking process. The proposed standards under subpart L would require the repair of leaks in heat exchangers in regulated material service within 45 days of the sampling event in which the leak is detected, unless a delay in repair is allowed. Delay in repair of the leak would be allowed until the next shutdown if the repair of the leak requires the process unit served by the leaking heat exchanger to be shut down and if the total strippable hydrocarbon concentration is less than the delay of repair action level, which would be, as a default level, 62 ppmv total strippable hydrocarbons (as methane) collected via the Modified El Paso Method or 800 ppbw of total strippable hydrocarbons in the cooling water collected and analyzed according to SW-846 Methods 5030B and 8260C or ASTM Method D5790-95. Delay in repair of the leak would also be

allowed for up to 120 days if the total strippable hydrocarbon concentration is less than the delay of repair action level, and if critical parts or personnel are not available. The owner or operator would be required to continue monitoring, at least monthly, and to repair the heat exchanger within 30 days if sampling results show that the leak exceeds the delay of repair action level.

We are proposing different sampling locations for heat exchange systems based on whether the system includes a cooling tower or is a once-through heat exchange system. We are granting reconsideration on these issues (Issue Nos. 2 and 3) identified by API. We are proposing to clarify these requirements in 40 CFR part 65, subpart L and we are proposing that 40 CFR part 63, subpart CC would cross-reference these provisions for heat exchange systems at refineries. For heat exchange systems that include a cooling tower (i.e., closed-loop recirculation systems), we are proposing that sampling would be conducted at the combined cooling tower inlet water location prior to exposure to the atmosphere or, alternatively, that sampling would be conducted in the return or "exit" lines (i.e., water lines returning the water from the heat exchangers to the cooling tower) from an individual heat exchanger or bank of heat exchangers. That is, if the cooling tower services multiple heat exchangers, the owner or operator could choose among several

sampling locations: (1) Monitor only the heat exchangers "in regulated material service"; (2) monitor at branch points that combine several heat exchanger exit lines; or (3) monitor at the combined stream for the entire closed-loop recirculation system. If a leak is detected (i.e., the measured concentration exceeds the applicable leak action level) at an individual heat exchanger "in regulated material service," that leak would need to be repaired (i.e., appropriate action taken to reduce the hydrocarbon concentration to less than the applicable leak action level). If a leak is detected at the combined cooling tower inlet, the owner or operator could either fix the leak or leaks so that the hydrocarbon concentration measured at the combined cooling tower inlet is less than the applicable leak action level or sample heat exchanger exit lines for each individual or combination of heat exchangers "in regulated material service," as necessary, to document that the leak is not originating from any heat exchanger within the closed-loop recirculation systems that is "in regulated material service." If a leak is detected in an individual heat exchanger "in regulated material service" during this process, that leak would need to be repaired. We are also proposing to clarify the regulatory text we are moving from 40 CFR 63.654(g)(4)(ii) of subpart CC to 40 CFR 65.640(g)(4)(ii) of subpart L to indicate that the flow rate for calculation of emissions from heat

exchanger leaks may be based on direct measurement, pump curves, heat balance calculations or other engineering methods (reconsideration Issue No. 4).

We are proposing to define a once-through heat exchange system as a system that "consists of one or more heat exchangers servicing an individual process unit and all water lines to and from the heat exchanger(s)." This definition has not been substantively changed from the Refinery MACT 1 definition. We are not adopting the petitioner's suggested edits to say "one or more individual process units." Rather, we are proposing that sampling for once-through heat exchange systems must be conducted in exit lines from individual heat exchangers, or a group of heat exchangers "in regulated material service" associated with a single process unit. In closed-loop recirculation heat exchange systems, the potential dilution of the leak by including cooling waters from other processes is minimized due to the physical limitations of the quantity of water that can be processed by a single cooling tower. If once-through heat exchange systems are not limited by definition to a single process unit, then a once-through heat exchange system could include all heat exchangers at the entire facility. The potential to aggregate all cooling water at a facility (as opposed to a single process unit) prior to sampling for a once-through system would greatly reduce the effectiveness of the

leak monitoring methods and would allow HAP or VOC leaks to remain undetected, based solely on the dilution effect from the vast quantity of water processed at the facility. We request comment on the proposed definition and sampling method for once-through heat exchange systems. Commenters are encouraged to provide additional information and suggestions for sampling alternatives that would allow flexibility, but would include a small enough number of individual heat exchangers to provide meaningful measurements in once-through systems.

In addition, we are proposing to allow the owner or operator of a once-through heat exchange system to monitor both the inlet and outlet of an individual heat exchanger or group of heat exchangers associated with a single process unit and compare the difference between those two measurements to the leak action level to determine if a leak is detected. This provision was contained in 40 CFR 63.654(c)(1), but has been clarified in proposed 40 CFR part 65, subpart L. The use of a differential leak is provided for once-through systems because the water supply for these systems (often river water or ocean water) may contain higher background concentrations of hydrocarbons than the purchased water that is used in closed-loop recirculation systems.

We propose to define "in regulated material service" in 40 CFR part 65, subpart L and to include procedures for determining

whether a heat exchanger is "in regulated material service" in 40 CFR 65.275 of the Uniform Standards General Provisions (40 CFR part 65, subpart H) (see section III.C of this preamble for more detail on the Uniform Standards General Provisions).

All affected sources with a heat exchange system in regulated material service would be required to maintain records of: (1) All heat exchangers at the facility and which of those heat exchangers are in regulated material service subject to 40 CFR part 65, subpart L; (2) the cooling towers and once-through systems associated with heat exchangers in regulated material service; (3) all monitoring results; and (4) information documenting the reasons for any delays in repair of a leak. These requirements are the same as the requirements finalized for refinery heat exchange systems.

As proposed, 40 CFR part 65, subpart L specifies a default monitoring frequency of quarterly. This default monitoring frequency is based on a general analysis of the costs of monitoring at various frequencies. The initial equipment costs associated with the Modified El Paso sampling method are about \$14,000, but one stripping column can be used to monitor several heat exchange systems at the facility. For continuous monitoring, a stripping column and hydrocarbon analyzer would be required for each affected heat exchange system, which would increase the costs if more than one heat exchange system exists

at a given facility. We note that the monitoring frequency is a minimum required frequency; an owner or operator conducting more frequent monitoring than required would still be in compliance with subpart L or the source-specific subpart that establishes an alternative monitoring frequency.

C. What general provisions for uniform standards are we proposing to include in 40 CFR part 65, subpart H?

We are proposing to include general provisions in 40 CFR part 65, subpart H that would apply to all sources subject to uniform standards. We note that these general provisions are not intended to take the place of the general provisions provided in subpart A of 40 CFR part 63 for NESHAP and that are referenced in many MACT standards. Similarly, these general provisions are not intended to take the place of the general provisions provided in subpart A of 40 CFR part 60 for NSPS. The specific provisions we are proposing to include in 40 CFR part 65, subpart H are described below.

Proposed 40 CFR 65.270 is a centralized section for incorporations by reference, such as test methods. This provision would be similar to provisions in other general provision subparts (e.g., 40 CFR 63.14). We anticipate that we would add methods to this section as we propose new uniform standards.

Proposed 40 CFR 65.275 describes procedures for determining whether a source is "in regulated material service." We anticipate some of the uniform standards, including 40 CFR part 65, subpart L, would include requirements for regulated sources "in regulated material service." In many cases, referencing subparts would define the "regulated material" and explain how to determine whether a source is "in regulated material service" for the source category addressed by that referencing subpart. However, in the event that a referencing subpart does not provide an explanation of how to determine whether a source is "in regulated material service," we are proposing procedures for making that determination under the proposed 40 CFR part 65, subpart H. The proposed requirements are based on the procedures in 40 CFR 63.180(d), and are provided for clarification for the sources subject to the uniform standards.

Proposed 40 CFR 65.280 contains requirements for determining compliance with periodic requirements. The proposed requirements specify that weekly, monthly and annually refer to the standard calendar periods and sources would have to complete periodic requirements within each standard calendar period with a minimum amount of time or "reasonable interval" between each event. We have also included a provision clarifying that the reasonable interval requirement would not prevent a source from conducting the periodic requirement more frequently. In other

words, if a source is required to monitor quarterly, but elects to monitor monthly instead, it would still be considered in compliance with the requirement to monitor quarterly.

Finally, proposed 40 CFR 65.295 includes definitions for terms that we expect will be used across multiple uniform standard subparts, so that those terms are defined consistently. In this action, we are proposing to define "owner or operator," "regulated material," and "regulated source." We intend to propose other definitions for inclusion in this section, as needed, when we propose requirements for other uniform standards.

#### **IV. Rationale for Proposed Heat Exchange System Uniform Standards and Petroleum Refinery Amendments**

##### **A. What is the rationale for the amendments to the heat exchange system requirements and the amendments to Refinery MACT 1?**

When we developed the MACT requirements for heat exchange systems at petroleum refineries, we primarily evaluated permits in order to identify the MACT floor monitoring requirements for heat exchange systems at new and existing sources. We then developed impacts for the monitoring alternatives identified during the permit review process. In evaluating monitoring alternatives for the uniform standards, we developed a more detailed modeling approach to better understand the relative impacts of the monitoring frequency, leak action level, delay of

repair threshold and other model variables. Through this analysis, we discovered that the leak action level is often more critical to achieving emission reductions than the monitoring frequency. The relative importance of the monitoring frequency versus leak action level depends on the baseline monitoring frequency and action level to which one is comparing results, but the results clearly indicate that more frequent monitoring at a high leak action level is not as effective at reducing emissions as less frequent monitoring at a low leak action level. Based on the generalized heat exchange system analysis (see technical memorandum, Technology Review for Heat Exchange Systems, in Docket ID No. EPA-HQ-OAR-2011-0002), quarterly monitoring at a leak action level of 40 ppbw in the cooling water (which is equivalent to 3.1 ppmv hydrocarbons as methane in the stripping gas) is as or more effective at reducing emissions as monthly monitoring at a leak action level of 80 ppbw in the cooling water (or 6.2 ppmv hydrocarbons as methane in the stripping gas) for individual heat exchange systems.

We then evaluated these two monitoring options specifically for heat exchange systems located at petroleum refineries, and determined that these two monitoring options are expected to achieve equivalent emission reductions. That is, we determined that a quarterly monitoring program using a leak action level of 40 ppbw would achieve the same emission limitation achieved by a

monthly monitoring program using a leak action level of 80 ppbw; therefore, we believe it is equivalent to the MACT floor for existing sources. Based on our analysis, quarterly monitoring at the lower leak action level would result in a net cost savings compared to monthly monitoring, so we anticipate that, if given the option, most refineries would elect to use the quarterly monitoring alternative.<sup>5</sup> Therefore, we are proposing to revise the existing MACT standard to include, as an alternative for existing sources, quarterly monitoring with a leak action level of 40 ppbw. To ensure each monitoring program is implemented as intended, the refinery owner or operator would choose the monitoring program with which they would comply at all times for each heat exchange system and notify the Administrator of that choice. The refinery owner or operator would notify the Administrator if a change in monitoring alternative is desired, but all "leaks" identified prior to changing monitoring alternatives would be required to be repaired regardless of the change in leak definition for the newly elected alternative. Thus, the refinery owner or operator could not elect quarterly monitoring at 40 ppbw, identify a leak of 60 ppbw and then change the monitoring frequency to monthly with an action level of 80 ppbw.

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<sup>5</sup> However, we know that several refineries in Texas are currently required to monitor monthly using the higher leak action level and may desire to keep their current monitoring program.

In addition to fulfilling the mandate in CAA section 112(d)(2) and (3) that sources be subject to requirements at least as stringent as the MACT floor, this revision is responsive to Executive Order 13563, "Improving Regulation and Regulatory Review," issued on January 18, 2011, which directs each federal agency to "periodically review its existing significant regulations to determine whether any such regulations should be modified, streamlined, expanded or repealed so as to make the agency's regulatory program more effective or less burdensome in achieving the regulatory objectives." As discussed previously, we have determined that quarterly monitoring using a lower leak action level of either 3.1 ppmv total strippable hydrocarbons (as methane) in the stripping gas collected via the Modified El Paso Method, or 40 ppbw of total strippable hydrocarbons in the cooling water collected and analyzed according to SW-846 Methods 5030B and 8260C or ASTM Method D5790-95 would achieve equivalent emissions reductions as the monthly monitoring with a leak action level of 6.2 ppmv total strippable hydrocarbons (as methane) that is currently in the Refinery MACT 1 rule for existing sources. This proposed alternative will increase flexibility for the regulated industry, and reduce the cost and administrative burden, while maintaining at least equivalent level of environmental and public health protection.

In developing the uniform standards for heat exchange systems, we also considered more broadly the variety of heat exchange systems in use and whether the Modified El Paso Method should be the sole monitoring system identified in the uniform standard at this time. For some source categories, a limited number of compounds may be present in the process stream for which analytical methods are available that can detect these compounds at low concentrations. Additionally, for streams containing highly chlorinated organic compounds, these alternative methods may provide lower detection limits and better sensitivity than using the Modified El Paso Method (which uses a flame ionization detector). Our review indicated that the specific analytical method used was not critical to the emission limitations achieved, provided that the method could accurately quantify pollutant concentrations at levels far enough below the leak action level that the method could accurately indicate whether or not a leak exists. As such, we are proposing to include a direct water analysis method in the uniform standards. As previously stated, each referencing subpart could include different or alternative analytical methods if they are determined to be appropriate in the rulemaking on that referencing subpart.

For petroleum refineries, we considered whether direct water sampling should be included as an alternative. Proponents

of the Modified El Paso Method note that volatile compounds can be lost during the direct water sampling process, so that the Modified El Paso Method would be more accurate for samples that contain volatile compounds, such as those typically found at a petroleum refinery. However, in using direct water sampling, there are sampling methods for volatile or for highly reactive volatile compounds that, if followed, should minimize volatile loss during sampling and storage. Another potential issue with direct water sampling is that not all of the pollutants will be fully emitted from the cooling water and the concentrations of these chemicals will tend to build up in closed-loop recirculation heat exchange systems. For these reasons, a difference in the inlet and outlet of the cooling tower (or heat exchanger) is often proposed as the appropriate measure by which to define a leak. While the inlet and outlet measurements may provide a better estimate of the actual emissions, the fact that hydrocarbons are accumulating in the cooling water is evidence that there is a leak. Furthermore, our analysis indicates that small leaks are generally cost effective to repair. Thus, we are proposing to include language in the uniform standard that would allow direct water sampling as an alternative to the Modified El Paso Method, provided that the analysis can fully characterize all volatile compounds that could enter the cooling water from the process fluid in the heat exchanger. We are also proposing

to reference this language from Refinery MACT 1. Where direct water sampling is used, we are proposing to require the determination of a leak to be based only on the concentration in the cooling tower return line or selected heat exchanger exit line(s) prior to exposure to the atmosphere (i.e., we would not allow determination of a leak as the difference from inlet to outlet for closed-loop recirculation systems). We anticipate that most petroleum refinery owners or operators would elect to use the Modified El Paso Method, but there may be certain process streams that have a limited number of volatile compounds where the direct water sampling approach would be a cost effective alternative.

Finally, one of the issues for which API requested reconsideration (Issue No. 4) was the uncertainty in the requirements for monitoring cooling water flow or recirculation rates. This parameter is required as a means to determine the potential emissions during a delay of repair. As we indicated in the preamble to the final rule (74 FR 55675), "[i]t is anticipated that facilities will monitor at locations where the flow rate is known based on pump curves, heat balance calculations or other engineering methods. A continuous flow monitor is not required, but a flow rate at the monitoring location is needed to assess the potential mass emissions associated with a leak." Although this issue was discussed in

the preamble to the final rule, the rule language was silent on the allowable methods to determine the flow rate for the required calculation. Therefore, we are proposing to clarify our original intent by specifying in the regulatory text for the uniform standards for heat exchange systems that "the flow rate may be based on direct measurement, pump curves, heat balance calculations, or other engineering methods." This provision would be cross-referenced for purposes of Refinery MACT 1.

B. What is the rationale for the proposed uniform standards?

In a number of cases, the EPA has established CAA standards for different source categories that regulate materials from the same kind of emission point. Standards for a given type of emission point may require application of controls with similar control efficiencies and include similar design, equipment or operating standards, even though these emission points may be located at different types of sources or facilities. Although many of the characteristics may be the same, some requirements may need to vary among the various source categories.

To avoid duplicative or disjointed requirements, and to promote consistency among technical requirements for similar emission points in different source categories, the EPA has established several common control requirement subparts describing testing, monitoring, recordkeeping and reporting requirements for certain emission points and emission controls

that can be referenced from multiple source categories. For instance, we promulgated standard requirements for selected emission points (i.e., containers, surface impoundments, oil-water separators and organic-water separators, tanks, individual drain systems) in individual subparts under the Off-Site Waste and Recovery Operations NESHAP (61 FR 34158, July 1, 1996) (referred to as the OSWRO MACT) and we promulgated subparts for other selected emission points (i.e., closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process; equipment leaks; and storage vessels) as part of the Generic MACT program (64 FR 34854, June 29, 1999). The Generic MACT standards for selected emission points, which were promulgated under 40 CFR part 63, subparts SS, TT, UU and WW, were then referenced in NESHAP requirements for individual source categories.

Consolidation of compliance requirements under these subparts allowed for ease of reference, provided administrative convenience and assured consistency in the technical requirements, where appropriate, of the air emission control requirements applied to similar emission points located at sources regulated under different source category regulations. The 40 CFR part 63, subparts SS, TT, UU and WW are emission point- and emissions control-specific. They specify monitoring, recordkeeping, and reporting requirements, but generally do not

specify emissions reduction performance requirements or applicability thresholds. Instead, the referencing subpart specifies the emissions reduction performance requirements and applicability thresholds.

By establishing these emission point- and emissions control-specific subparts, other source-category-specific regulations were able to reference a common set of design, operating, testing, inspection, monitoring, repair, recordkeeping and reporting requirements for air emissions controls. This eliminated the potential for duplicative or conflicting technical requirements, and assured consistency of the air emission requirements applied to similar emission points, while allowing the specific emission standard to be set within the context of the source-specific regulations. Additionally, creating emission point-specific and emissions control-specific subparts ensured that all regulations that cross-referenced these subparts could be amended in a consistent manner through one regulatory action.

This action proposes uniform standards for heat exchange systems (40 CFR part 65, subpart L). We are proposing to establish the uniform standards under 40 CFR part 65 and anticipate, through future notice-and-comment rulemaking, to cross-reference subpart L from source category emission standards within at least two different parts of title 40 of the

CFR, parts 60 and 63, which establish NSPS and MACT standards, respectively. We anticipate that we will see the same benefits for this uniform standard as we have seen for previous emission point- and emissions control-specific subparts, as described above, including the ability to reference a common set of standards for the same type of emission point located at sources within different source categories, which will maximize consistency between source categories for that type of emission point.

As with the common control requirement subparts previously promulgated, we are proposing that 40 CFR part 65, subpart L would include technical requirements and would not specify applicability cutoffs or emissions reduction performance requirements, because these requirements are more properly established in source-specific rules. However, we are proposing a default leak action level and monitoring frequency that would apply if the referencing subpart does not specify these parameters. In the rulemaking actions revising standards to cross-reference subpart L, we would address whether the referencing subpart should cross-reference subpart L in its entirety or only a subset of subpart L. For those provisions not cross-referenced by the source-specific subpart, the requirement would be specifically addressed in the source-specific subpart. Moreover, for those provisions that are cross-referenced, we

could consider whether the source-specific subpart should include more stringent requirements. For example, the referencing subpart could specify continuous monitoring rather than periodic monitoring if it is determined that continuous monitoring is appropriate for the heat exchange systems in that source category.

As we revise or promulgate source-specific standards that have sources addressed by a uniform standard, we would propose whether and to what extent we reference the uniform standards; in making that decision we would consider the applicable CAA requirements, analyses of the individual source category and the similarity of emission characteristics and applicable controls. We would consider factors such as: (1) The volume and concentration of emissions; (2) the type of emissions; (3) the similarity of emission points; (4) the cost and effectiveness of controls for one source category relative to the cost and effectiveness of controls for the other source category; (5) whether a source has unusual characteristics that might require different analytical methods; and (6) whether any of the sources have existing emission controls that are dissimilar and more stringent than controls required for similar sources outside the source category. These factors would be considered on a source category-specific basis to ensure that sources are appropriately similar, and that emissions control technologies and reductions

demonstrated outside of a source category are achievable for new and existing sources in an applicable source category.

As we noted previously in this preamble, the rationale for each determination that some or all of the provisions of 40 CFR part 65, subpart L should be cross-referenced for an individual referencing subpart in light of the applicable CAA requirements would be addressed in the rulemaking for the individual subpart at the time of proposal and we would provide an opportunity for public comment. Likewise, for each review of an existing standard that results in a determination that some or all of the provisions in subpart L should be cross-referenced and that it would be consistent with the applicable CAA requirements to do so, a description of the analyses performed as part of that review would be presented in the rulemaking for the individual subpart at the time of proposal and we would provide an opportunity for public comment. We would also conduct an assessment of the costs, emission reduction, economic and other impacts as they relate to the specific source category at issue at that time.

We are aware that there are heat exchange systems at facilities other than just petroleum refineries (e.g., some chemical manufacturing facilities) in which the process fluid contains hydrocarbons that can leak into the cooling water. Some of these heat exchange systems are subject to the same

state requirements as heat exchange systems at petroleum refineries (e.g., many cooling towers in Texas that are subject to the TCEQ Highly Reactive VOC rule are associated with ethylene production units). Therefore, we believe there are indications that the uniform requirements included in proposed 40 CFR part 65, subpart L could be appropriate requirements for other source categories. We note that the Modified El Paso Method has been demonstrated at numerous sources as an effective means of identifying leaks in heat exchange systems and the method has been used extensively for over 20 years.

C. What is the rationale for the proposed general provisions to the uniform standards?

We are currently proposing general provisions for the uniform standards in 40 CFR part 65, subpart H. The existing General Provisions of subpart A of 40 CFR part 65 would be renamed to reflect applicability only to the current Consolidated Federal Air Rules, which comprise subparts A through G of part 65. The Uniform Standards General Provisions would apply to sources that must comply with the uniform standards for heat exchange systems in 40 CFR part 65, subpart L, if finalized, as well as sources that must comply with any future uniform standards promulgated under 40 CFR part 65.

The General Provisions of 40 CFR part 65, subpart H would define the applicability of the uniform standards for proposed

40 CFR part 65, subpart L and for any other uniform standards that may be codified in the future in 40 CFR part 65, subparts I through M. These provisions would include requirements or definitions that we anticipate would apply to two or more subparts of the uniform standards. The General Provisions of subpart H would apply when another subpart references the use of the uniform standards under subparts I through M. As proposed, subpart H also clarifies that the General Provisions applicable to the referencing subpart (i.e., subpart A of 40 CFR part 60 or 40 CFR part 63) would continue to apply to sources as specified in the referencing subpart and that we are not proposing to include specific requirements already addressed in the General Provisions of 40 CFR part 60 or 40 CFR part 63 in the General Provisions of subpart H. In creating each of the uniform standards, we would determine which provisions in the General Provisions in subpart H should be referenced by that uniform standard.

The proposed 40 CFR part 65, subpart H also contains requirements for determining compliance with periodic requirements established in a uniform standard in 40 CFR part 65, subpart I through M. Consistent with the HON (40 CFR 63.100(k)(9)), we are proposing that terms such as weekly, monthly and annually refer to the standard calendar periods and

that the owner or operator would have to complete periodic requirements within each standard calendar period.

We are also proposing that there must be a "reasonable interval" between completion of two instances of the same task. This is necessary because an owner or operator could theoretically comply with monthly requirements by completing the task at the beginning of one month, the end of the next month and the beginning of a third month (which could be only a day after the end of the second month). This is not consistent with our intention in requiring the task to be completed monthly. The time periods we are proposing as reasonable intervals are consistent with the reasonable intervals for batch processes at 40 CFR 60.482-1(f)(3) (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry; 40 CFR part 60, subpart VV) and 40 CFR 63.100(k)(9)(ii)(A). The proposed language ensures that periodic requirements are conducted on a consistent and relatively uniform schedule from one period to the next, while also providing some degree of flexibility. We are not proposing to specify a reasonable interval for requirements that occur less frequently than annually; instead, if a uniform standard imposes a periodic requirement that must be performed less frequently than annually, that uniform standard would include requirements for determining compliance with that periodic obligation.

We also note that the reasonable interval provisions are not intended to imply that periodic requirements cannot be conducted more frequently than required. For example, if a source is required to monitor a piece of equipment quarterly, but the owner or operator elects to monitor monthly or a state provision requires more frequent monitoring, the source is still in compliance with the quarterly monitoring requirement. Even though some of the monitoring events occur closer together than the reasonable interval, there would still be a reasonable interval between the monitoring events that could be relied on to meet the monitoring requirement. For the same reason, if a source has a continuous monitor in place, the source is still considered to be in compliance with the periodic monitoring requirement.

Finally, we are proposing common definitions for terms that we expect will be used in two or more of the uniform standards. We have defined the term "regulated source" to mean the stationary source, the group of stationary sources or the portion of a stationary source that is regulated by a relevant standard or other requirement established pursuant to a referencing subpart. Because we intend to propose rulemakings that would reference the uniform standards from 40 CFR part 60 and/or 40 CFR part 63, we have proposed a definition of "regulated material" that is more inclusive of potential

pollutants that would be regulated than previous definitions of this term (e.g., subpart SS of part 63). Specifically, we are proposing to define "regulated material" as chemicals or groups of chemicals (such as VOC or HAP) that are regulated by the referencing subpart.

## **V. Summary of Impacts**

This action will have no cost, environmental, energy, or economic impacts beyond those impacts presented in the October 2009 final rule for heat exchange systems at petroleum refineries and may result in a cost savings for refiners who select the proposed alternative monitoring frequency. The only sources affected by this action would be petroleum refineries and there would be no additional impacts for heat exchange systems at petroleum refineries beyond those presented in the October 2009 final rule that established these requirements. This action largely moves those requirements from 40 CFR part 63, subpart CC, which is specific to petroleum refineries, to 40 CFR part 65, subpart L, which would be cross-referenced by subpart CC. The intention is that subpart L would provide uniform standards such that other MACT standards, as well as NSPS, could cross-reference those requirements for heat exchangers through future regulatory action. In addition to this structural change, we are proposing to provide an additional monitoring alternative for quarterly monitoring at a leak action

level of total strippable hydrocarbons of 3.1 ppmv in the stripping air (or 40 ppbw in the cooling water). Sources could elect this monitoring alternative in place of the monitoring requirement that is currently provided. This alternative is expected to lower the costs associated with the October 2009 requirements, while achieving the same environmental impacts. Finally, the clarifications and other changes we are proposing in response to reconsideration are cost neutral.

## **VI. Statutory and Executive Order Reviews**

### A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993) and Executive Order 13563 (76 FR 3821, January 21, 2011), this action is a "significant regulatory action" because it may raise novel legal or policy issues. Accordingly, the EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

### B. Paperwork Reduction Act

This action does not impose any new information collection burden. We are proposing to move the information collection

requirements from the Petroleum Refinery NESHAP (40 CFR part 63, subpart CC) to the Heat Exchange System Uniform Standards (40 CFR part 65, subpart L), but we are not proposing to change the information collection requirements themselves. The other proposed amendments to 40 CFR part 63, subpart CC would not affect the information collection requirements for petroleum refineries. Therefore, we have not revised the information collection request (ICR) for the existing petroleum refinery rule, nor have we developed an ICR for the Heat Exchange System Uniform Standards. However, OMB has previously approved the information collection requirements in the existing regulations (40 CFR part 63, subpart CC) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501, et seq., and assigned OMB control numbers 2060-0340 and 2060-0619. The OMB control numbers for the EPA's regulations are listed in 40 CFR part 9. The EPA is proposing to amend the table in 40 CFR part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the information requirements for heat exchange systems subject to the NESHAP for petroleum refineries promulgated October 28, 2009 (74 FR 55670).

The EPA will continue to present OMB control numbers in a consolidated table format to be codified in 40 CFR part 9 of the agency's regulations, and in each CFR volume containing the EPA regulations. The table lists the section numbers with reporting

and recordkeeping requirements and the current OMB control numbers. This listing of the OMB control numbers and their subsequent codification in the CFR satisfy the requirements of the Paperwork Reduction Act (44 U.S.C. 3501, et seq.) and OMB's implementing regulations at 5 CFR part 1320.

### C. Regulatory Flexibility Act

The Regulatory Flexibility Act generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act, or any other statute unless the agency certifies that the rule would not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations and small governmental jurisdictions.

For the purposes of assessing the impacts of this proposed action on small entities, small entity is defined as: (1) A small business that meets the Small Business Administration size standards for small businesses at 13 CFR 121.201 (a firm having no more than 1,500 employees); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed action on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The proposed amendments to 40 CFR part 63, subpart CC, and proposed uniform standards in 40 CFR part 65, subpart L would not change the existing heat exchange system requirements for any entity; therefore, they will not have a significant economic impact on any entity, including small entities.

We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

#### D. Unfunded Mandates Reform Act

This proposed action contains no federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for state, local or tribal governments or the private sector, because it does not contain a federal mandate that may result in expenditures of \$100 million or more for state, local and tribal governments, in the aggregate, or to the private sector in any one year. As discussed earlier in this preamble, these amendments have no impact on costs. Therefore, this proposed rule is not subject to the requirements of sections 202 and 205 of the UMRA.

This proposed action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The proposed action contains no requirements that apply to such governments, and imposes no obligations upon them.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It would not have substantial direct effects on the states, on the relationship between the national government and the states or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. It would not modify existing responsibilities or create new responsibilities among the EPA Regional offices, states or local enforcement agencies. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132 and consistent with the EPA policy to promote communications between the EPA and state and local governments, the EPA specifically solicits comment on this proposed action from state and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The

proposed action imposes no requirements on tribal governments and will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action.

The EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is based solely on technology performance.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action," as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution or use of energy.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113 (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards (VCS) in its regulatory activities, unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the agency decides not to use available and applicable VCS.

This proposed rulemaking involves technical standards. The EPA proposes to use "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources," Revision Number One, dated January 2003 and will incorporate the method by reference (see 40 CFR 65.265).

This method is available at

[http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp\\_ado.pdf](http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf) or from the Texas

Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711-3087, telephone number (512) 239-0028. This method was chosen because it is an effective means to determine leaks from heat exchangers and it is the method used in the best-performing facilities. This TCEQ method uses a

dynamic or flow-through system for air stripping a sample of the water and analyzing the resultant off-gases for VOC using a common flame ionization detector analyzer. While direct water analyses, such as purge and trap analyses of water samples using gas chromatography and/or mass spectrometry techniques, have been shown to be effective for cooling tower measurements of heavier molecular weight hydrocarbons with relatively high boiling points, it has been determined that this approach may be ineffective for capture and measurement of VOC with lower boiling points, such as ethylene, propylene, 1,3-butadiene and butenes. The VOC with a low molecular weight and boiling point are generally lost in the sample collection step of purge/trap type analyses. Consequently, this TCEQ air stripping method is used for cooling tower and other applicable water matrix emission measurements of VOC with boiling points below 140° Fahrenheit.

To test water samples for purgeable VOC, the EPA proposes to use SW-846 Method 5030B, Purge-and-Trap for Aqueous Samples, and SW-846 Method 8260C, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, dated December 1996, and will incorporate these methods by reference (see 40 CFR 65.265). These methods are available at <http://www.epa.gov/waste/hazard/testmethods/sw846/online/index.h>

tm or the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847 or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800. A VCS, ASTM Method D5790-95, Standard Test Method for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry, reapproved 2006, is an acceptable alternative to SW-846 Methods 5030B and 8260C and will be incorporated by reference (see 40 CFR 65.265). This method is available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428, (610) 832-9585 or (877) 909-2786 or at <http://www.astm.org/index.shtml>.

These methods were chosen because purge-and-trap analyses of water samples using gas chromatography and/or mass spectrometry techniques, have been shown to be effective for cooling tower measurements of heavier molecular weight hydrocarbons with boiling points as low as -13° Celsius (9° Fahrenheit). These methods measure a wide range of VOC, and we expect that these methods are applicable for analysis of the majority of compounds that will need to be analyzed at the facilities covered by this subpart.

The EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify

potentially-applicable VCS and to explain why such standards should be used in this regulation.

Under 40 CFR 63.7(f) and 40 CFR 63.8(f) of subpart A of the NESHAP General Provisions or under 40 CFR 60.13(i) of the NSPS General Provisions, as applicable, a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications or procedures in the proposed rule.

J. Executive Order 12898: Federal Actions to Address  
Environmental Justice in Minority Populations and Low-Income  
Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the United States.

The EPA has determined that this proposed rule would not have disproportionately high and adverse human health or environmental effects on minority or low-income populations

because it would not affect the level of protection provided to human health or the environment. The proposed action would not relax the control measures on regulated sources and therefore, would not cause emissions increases from these sources.

**National Emission Standards for Hazardous Air Pollutants From  
Petroleum Refineries; National Uniform Emission Standards for  
Heat Exchange Systems--Page 71 of 104**

**List of Subjects**

**40 CFR Part 9**

Environmental Protection, Reporting and recordkeeping requirements.

**40 CFR Part 63**

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

**40 CFR Part 65**

Environmental protection, Air pollution control, Incorporations by reference, Reporting and recordkeeping requirements.

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Dated: November 30, 2011.

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Lisa P. Jackson,  
Administrator.

For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended as follows:

**PART 9-- [AMENDED]**

1. The authority citation for part 9 continues to read as follows:

**Authority:** 7 U.S.C. 135, et seq., 136-136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601-2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251, et seq., 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345(d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-1, 300j-2, 300j-3, 300j-4, 300j-9, 1857, et seq., 6901-6992k, 7401-7671q, 7542, 9601-9657, 11023, 11048.

2. The table in §9.1 is amended by revising the entry for 63.655 under the heading, "National Emission Standards for Hazardous Air Pollutants for Source Categories," to read as follows:

**§9.1 OMB Approvals under the Paperwork Reduction Act.**

\* \* \* \* \*

40 CFR citation	OMB control No.
* * * * *	* * * * *
National Emission Standards for Hazardous Air Pollutants for Source Categories <sup>3</sup>	
* * * * *	* * * * *
63.655	2060-0340, 2060-0619
* * * * *	* * * * *

\* \* \* \* \*

<sup>3</sup> The ICR referenced in this section of the table encompass the applicable general provisions contained in 40 CFR part 63,

subpart A, which are not independent information collection requirements.

**Part 63-- [AMENDED]**

3. The authority citation for part 63 continues to read as follows:

**Authority:** 42 U.S.C. 7401, et seq.

**Subpart A-- [AMENDED]**

4. Section 63.14 is amended by removing and reserving paragraph (n)(1).

**Subpart CC-- [AMENDED]**

5. Section 63.640 is amended by:

- a. Revising paragraph (a) introductory text and
- b. Revising paragraph (h)(1) to read as follows:

**§63.640 Applicability and designation of affected source.**

(a) This subpart applies to petroleum refining process units and to related emissions points that are specified in paragraphs (c)(1) through (8) of this section that are located at a plant site and that meet the criteria in paragraphs (a)(1) and (2) of this section:

\* \* \* \* \*

(h) \* \* \*

(1) Except as provided in paragraphs (h)(1)(i) and (ii) of this section, new sources that commence construction or reconstruction after July 14, 1994, shall be in compliance with

this subpart upon initial startup or August 18, 1995, whichever is later.

(i) At new sources that commence construction or reconstruction after July 14, 1994, but on or before September 4, 2007, heat exchange systems shall comply with the existing source requirements for heat exchange systems specified in §63.654 no later than October 29, 2012.

(ii) At new sources that commence construction or reconstruction after September 4, 2007, heat exchange systems shall be in compliance with the new source requirements in §63.654 upon initial startup or October 28, 2009, whichever is later.

\* \* \* \* \*

6. Section 63.641 is amended by:

a. Removing the definitions of "Cooling tower return line" and "Heat exchanger exit line" and

b. Revising the definition of "Heat exchange system" to read as follows:

**§63.641 Definitions.**

\* \* \* \* \*

Heat exchange system means a device or collection of devices used to transfer heat from process fluids to water without intentional direct contact of the process fluid with the water (i.e., non-contact heat exchanger) and to transport and/or

cool the water in a closed-loop recirculation system (cooling tower system) or a once-through system (e.g., river or pond water). For closed-loop recirculation systems, the heat exchange system consists of a cooling tower, all heat exchangers that are serviced by that cooling tower and all water lines to and from the heat exchanger(s). For once-through systems, the heat exchange system consists of one or more heat exchangers servicing an individual process unit and all water lines to and from the heat exchanger(s). Intentional direct contact with process fluids results in the formation of a wastewater.

\* \* \* \* \*

7. Section 63.654 is revised to read as follows:

**§63.654 Heat exchange systems.**

(a) The owner or operator of a heat exchange system that meets the criteria in §63.640(c)(8) must comply with the requirements of §65.610 as specified in paragraphs (b) through (e) of this section.

(b) For purposes of compliance with §65.610, the following terms have the meanings specified in paragraphs (b)(1) and (2).

(1) "Regulated material" means any "hazardous air pollutant" as defined by §63.641 of this subpart.

(2) "In regulated material service" means "in organic hazardous air pollutant service" as defined by §63.641 of this subpart.

(c) For a heat exchange system at an existing source, the owner or operator must comply with the monitoring frequency and leak definition as defined in paragraph (c)(1) of this section or comply with the monitoring frequency and leak definition as defined in paragraph (c)(2) of this section. The owner or operator of an affected heat exchange system may choose to comply with paragraph (c)(1) for some heat exchange systems at the petroleum refinery and comply with paragraph (c)(2) for other heat exchange systems. However, for each affected heat exchange system, the owner or operator of an affected heat exchange system must elect one monitoring alternative that will apply at all times. If the owner or operator intends to change the monitoring alternative that applies to a heat exchange system, the owner or operator must notify the Administrator 30 days in advance of such a change. All "leaks" identified prior to changing monitoring alternatives must be repaired.

(1) Monitor monthly using a leak action level defined as either a total strippable hydrocarbon concentration (as methane) in the stripping gas of 6.2 parts per million by volume or a total strippable hydrocarbon concentration in the cooling water of 80 parts per billion by weight.

(2) Monitor quarterly using a leak action level defined as either a total strippable hydrocarbon concentration (as methane) in the stripping gas of 3.1 parts per million by volume or a

total strippable hydrocarbon concentration in the cooling water of 40 parts per billion by weight.

(d) For a heat exchange system at a new source, the owner or operator must monitor monthly using a leak action level defined as either a total strippable hydrocarbon concentration (as methane) in the stripping gas of 3.1 parts per million by volume or a total strippable hydrocarbon concentration in the cooling water of 40 parts per billion by weight.

(e) For the purposes of §65.610(f), the delay of repair action level is a total strippable hydrocarbon concentration (as methane) in the stripping gas of 62 parts per million by volume or a total strippable hydrocarbon concentration in the cooling water of 800 parts per billion by weight.

8. Section 63.655 is amended by:

- a. Revising paragraph (f)(1)(vi);
- b. Revising paragraph (g)(9);
- c. Adding paragraph (h)(7); and
- d. Revising paragraph (i)(4) to read as follows:

**§63.655 Reporting and recordkeeping requirements.**

\* \* \* \* \*

(f) \* \* \*

(1) \* \* \*

(vi) For each heat exchange system, identification of the heat exchange systems that are subject to the requirements of

this subpart. For heat exchange systems at existing sources, the owner or operator shall indicate whether monitoring will be conducted as specified in §63.654(c)(1) or §63.654(c)(2).

\* \* \* \* \*

(g) \* \* \*

(9) For heat exchange systems, Periodic Reports must include the information specified in §65.620.

(h) \* \* \*

(7) The owner or operator of a heat exchange system at an existing source must notify the Administrator at least 30 calendar days prior to changing from one of the monitoring options specified in §63.654(c) to the other.

\* \* \* \* \*

(i) \* \* \*

(4) The owner or operator of a heat exchange system subject to the monitoring requirements in §63.654 shall comply with the recordkeeping requirements in §65.625.

\* \* \* \* \*

#### **PART 65-- [AMENDED]**

9. The authority citation for part 65 continues to read as follows:

**Authority:** 42 U.S.C., 7401, et seq.

10. Part 65 is amended by adding subpart H to read as follows.

**Subpart H--National Uniform Emission Standards General Provisions**

Sec.

65.200 What is the purpose of this subpart?

65.265 What methods are incorporated by reference for subparts I through M of this part?

65.270 How do I determine what regulated sources are in regulated material service?

65.280 How do I determine compliance with periodic requirements?

65.295 What definitions apply to subparts H through M of this part?

**Subpart H--National Uniform Emission Standards General Provisions**

**§65.200 What is the purpose of this subpart?**

These provisions apply to you if a subpart of part 60, 61 or 63 of this chapter references the use of this subpart. The General Provisions applicable to the referencing subpart (subpart A of part 60, 61 or 63) apply to this subpart as specified in the referencing subpart. The General Provisions for the Consolidated Federal Air Rule (subpart A of this part) do not apply to subparts I through M of this part.

**§65.265 What methods are incorporated by reference for subparts I through M of this part?**

The materials listed in this section are incorporated by reference in the corresponding sections. These incorporations by reference (IBR) were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of

the approval, and notice of any change in these materials will be published in the **Federal Register**. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the National Archives and Records Administration (NARA), at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW, Washington, DC, and at the EPA Library (C267-01), U.S. EPA, Research Triangle Park, North Carolina. For information on the availability of this material at NARA, call 202-741-6030 or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(a) The following material is available from the Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711-3087, telephone number (512) 239-0028 or at

[http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp\\_ado.pdf](http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf):

(1) "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources," Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January

31, 2003, IBR approved for §§65.610(a)(3)(i) and (g)(4)(i) and for §65.625(d)(4) of this subpart.

(2) [Reserved]

(b) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847 or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800 or at <http://www.epa.gov/waste/hazard/testmethods/sw846/online/index.htm>. The following methods as published in the test methods compendium known as "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, Third Edition. A suffix of "A" in the method number indicates revision one (the method has been revised once). A suffix of "B" in the method number indicates revision two (the method has been revised twice).

(1) SW-846 Method 5030B, "Purge-and-Trap for Aqueous Samples," dated December 1996, IBR approved for §§65.610(a)(3)(ii) and 65.625(d)(5) of this subpart, and

(2) SW-846 Method 8260C, "Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors," dated December 1996, IBR

approved for §§65.610(a)(3)(ii) and 65.625(d)(5) of this subpart.

(c) The following materials are available for purchase from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428, (610) 832-9585 or (877) 909-2786 or at <http://www.astm.org/index.shtml>:

(1) ASTM Method D5790-95, "Standard Test Method for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry," reapproved 2006, IBR approved for §§65.610(a)(3)(ii) and 65.625(d)(5) of this subpart.

(2) [Reserved]

**§65.270 How do I determine what regulated sources are in regulated material service?**

If you are subject to a uniform standard that includes requirements for regulated sources "in regulated material service," you must determine if regulated sources or equipment are in regulated material service using either paragraph (a) or (b) of this section, as applicable.

(a) If the referencing subpart includes a procedure or definition of "in regulated material service," you must use the procedure or definition of "in regulated material service" in the referencing subpart.

(b) If the referencing subpart does not include a procedure or definition of "in regulated material service," you must use the procedures specified in paragraphs (b)(1) through (3) of this section.

(1) Regulated sources or equipment that can reasonably be expected to be in regulated material service are presumed to be in regulated material service unless you demonstrate that the regulated sources or equipment are not in regulated material service.

(2) Except as provided in paragraph (b)(1) and (3) of this section, you must use Method 18 of 40 CFR part 60, appendix A-6 if the material is in the gas phase or either a combination of SW-846 Methods 5030B and 8260C or ASTM Method D5790-95 if the material is in the liquid phase and either of the methods specified in paragraphs (b)(2)(i) or (b)(2)(ii) of this section to demonstrate that regulated sources or equipment are not in regulated material service.

(i) Determine the weight percent regulated material content of the process fluid that is contained in or contacts the regulated source as the arithmetic sum of the weight percent concentration of each compound defined as regulated material. Demonstrate that the regulated material concentration is less than 5 weight percent on an annual average basis.

(ii) Demonstrate that the non-regulated material content exceeds 95 percent by weight on an annual average basis.

(3) You may use good engineering judgment rather than the procedures in paragraph (b)(1) or (b)(2) of this section to determine if regulated sources or equipment are not in regulated material service. However, when you and the Administrator do not agree on whether the regulated sources or equipment are in regulated material service, you must use the procedures in paragraph (b)(2) of this section to resolve the disagreement.

**§65.280 How do I determine compliance with periodic requirements?**

Except as specified in paragraph (c) of this section, if you are subject to a requirement in subpart I through M of this part to complete a particular task on a periodic basis, you must comply as described in paragraphs (a) and (b) of this section.

(a) All terms in subparts I through M of this part that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annually), refer to the standard calendar periods.

(b) You may comply with such periodic requirements by completing the required task any time within the standard calendar period, provided there is a reasonable interval between completion of two instances of the same task. Reasonable

intervals are described in paragraphs (b)(1) through (5) of this section.

(1) Tasks that you are required to complete weekly must be separated by at least 3 calendar days.

(2) Tasks that you are required to complete monthly must be separated by at least 14 calendar days.

(3) Tasks that you are required to complete quarterly must be separated by at least 30 calendar days.

(4) Tasks that you are required to complete semiannually (i.e., once every 2 quarters) must be separated by at least 60 calendar days.

(5) Tasks that you are required to complete annually must be separated by at least 120 calendar days.

(c) Exceptions. (1) Paragraphs (a) and (b) of this section do not apply to reports that you are required to submit under the General Provisions applicable to the referencing subpart (e.g., subpart A of part 60, 61 or 63).

(2) If the paragraph in subpart I, J, K, L or M that imposes a periodic requirement specifies a different schedule for complying with that requirement, you must follow that schedule instead of the requirements in paragraphs (a) and (b) of this section.

(3) Nothing in paragraphs (a) and (b) of this section shall be construed as prohibiting you from conducting a periodic task at a more frequent interval than required.

**§65.295 What definitions apply to subparts H through M of this part?**

All terms used in subparts H through M of this part shall have the meaning given them in the Clean Air Act and in this section.

Owner or operator means any person who owns, leases, operates, controls, or supervises a regulated source or a stationary source of which a regulated source is a part.

Referencing subpart means the subpart that refers you to one or more applicable uniform standards (subparts I through M of this part). A referencing subpart for one uniform standard may also be a referencing subpart for another uniform standard as long as the referencing subpart specifically refers you to each of those uniform standards.

Regulated material means chemicals or groups of chemicals (such as volatile organic compounds or hazardous air pollutants) that are regulated by the referencing subpart.

Regulated source means the stationary source, the group of stationary sources or the portion of a stationary source that is regulated by a relevant standard or other requirement established pursuant to a referencing subpart.

11. Part 65 is amended by adding subpart L to read as follows.

**Subpart L--National Uniform Emission Standards for Heat Exchange Systems**

Sec.

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**Subpart L--National Uniform Emission Standards for Heat Exchange Systems**

**What This Subpart Covers**

**§65.600 What is the purpose of this subpart?**

The provisions of this subpart apply to the control of air emissions from heat exchange systems for which another subpart references the use of this subpart for such air emission control.

**§65.605 Am I subject to this subpart?**

These air emission standards for heat exchange systems apply to you only if you own or operate a facility subject to a referencing subpart that specifies the use of this subpart.

#### **Work Practice Standards**

##### **§65.610 What monitoring and repair requirements must I meet?**

(a) Except as provided in paragraph (b) of this section, you must perform monitoring to identify leaks of total strippable hydrocarbons from each heat exchange system subject to the requirements of this subpart according to the procedures in paragraphs (a)(1) through (4) of this section.

(1) Monitoring locations for closed-loop recirculation heat exchange systems. For each closed loop recirculating heat exchange system, you must collect and analyze a sample from the location(s) described in either paragraph (a)(1)(i) or (a)(1)(ii) of this section.

(i) Each cooling tower return line prior to exposure to air for each heat exchange system in regulated material service.

(ii) Selected heat exchanger exit line(s) so that each heat exchanger or group of heat exchangers in regulated material service within a heat exchange system is covered by the selected monitoring location(s).

(2) Monitoring locations for once-through heat exchange systems. For each once-through heat exchange system, you must collect and analyze a sample from the location(s) described in

paragraph (a)(2)(i) of this section. You may also elect to collect and analyze an additional sample from the location(s) described in paragraph (a)(2)(ii) of this section.

(i) Selected heat exchanger exit line(s) so that each heat exchanger or group of heat exchangers in regulated material service within a heat exchange system is covered by the selected monitoring location(s).

(ii) The inlet water feed line for a once-through heat exchange system prior to any heat exchanger. If multiple heat exchange systems use the same water feed (i.e., inlet water from the same primary water source), you may monitor at one representative location and use the monitoring results for that sampling location for all heat exchange systems that use that same water feed.

(3) Monitoring method. You must determine the total strippable hydrocarbon concentration (or surrogate pollutant concentration, as specified in the referencing subpart) at each monitoring location using any of the analytical methods specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) Determine the total strippable hydrocarbon concentration (in parts per million by volume (ppmv) as methane) from the air stripping testing system using "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources," Revision Number

One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see §65.265) using a flame ionization detector (FID) analyzer.

(ii) Determine the total strippable hydrocarbon concentration (in parts per billion by weight (ppbw)) in the cooling water using a combination of SW-846 Method 5030B, "Purge-and-Trap for Aqueous Samples" and SW-846 Method 8260C, "Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors," dated December 1996 (incorporated by reference—see §65.265) or ASTM Method D5790-95, "Standard Test Method for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry," reapproved 2006 (incorporated by reference--see §65.265). Unless otherwise specified by the referencing subpart, the target list of compounds shall be generated based on a pre-survey sample and analysis by gas chromatography/mass spectrometry and process knowledge, to include all compounds that can potentially leak into the cooling water. If SW-846 Methods 5030B and 8260C or ASTM Method D5790-95 are not applicable for all compounds that can potentially leak into the cooling water for a given heat exchange system, you

cannot use these monitoring methods for that heat exchange system.

(iii) Determine the total strippable hydrocarbon concentration or surrogate pollutant concentration as specified in the referencing subpart (in ppbw) in the cooling water using the analytical methods specified in the referencing subpart.

(4) Monitoring frequency. You must determine the total strippable hydrocarbon concentration (or surrogate pollutant concentration as specified in the referencing subpart) at each monitoring location at the frequencies specified in paragraphs (a)(4)(i) through (iii) of this section, unless otherwise provided in the referencing subpart.

(i) For heat exchange systems for which you have not delayed repair of any leaks, monitor at least quarterly.

(ii) For heat exchange systems for which you have delayed repair as provided in paragraph (f) of this section, monitor at least monthly.

(iii) If you elect to monitor the inlet water feed line for a once-through heat exchange system as provided in paragraph (a)(2)(ii) of this section, you must monitor the inlet water feed line at least quarterly.

(b) A heat exchange system is exempt from the monitoring requirements in paragraph (a) of this section if it meets any

one of the criteria in paragraphs (b)(1) through (3) of this section.

(1) All heat exchangers that are in regulated material service within the heat exchange system operate with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.

(2) The heat exchange system does not contain any heat exchangers that are in regulated material service, as defined in this subpart or as defined in the referencing subpart, as applicable.

(3) The heat exchange system has a maximum cooling water flow rate of 10 gallons per minute or less.

(c) Unless otherwise specified by the referencing subpart, the leak action level is either a total strippable hydrocarbon concentration (as methane) in the stripping gas of 3.1 ppmv or a total strippable hydrocarbon concentration in the cooling water of 40 ppbw. A leak is defined as described in paragraph (c)(1) or (c)(2) of this section, as applicable.

(1) For once-through heat exchange systems for which you monitor the inlet water feed as described in paragraph (a)(2)(ii) of this section, a leak is detected if the difference in the measurement value of the sample taken from a location specified in paragraph (a)(2)(i) of this section and the measurement value of the corresponding sample taken from the

location specified in paragraph (a)(2)(ii) of this section equals or exceeds the leak action level.

(2) For all other heat exchange systems, a leak is detected if a measurement value taken according to the requirements in paragraph (a) of this section equals or exceeds the leak action level.

(d) If a leak is detected pursuant to the monitoring provisions of paragraph (a), you must repair the leak to reduce the measured concentration to below the applicable action level as soon as practicable, but no later than 45 days after identifying the leak, except as specified in paragraphs (e) and (f) of this section. Repair includes re-monitoring as specified in paragraph (a) of this section to verify that the measured concentration is below the applicable action level. Actions that you can take to achieve repair include, but are not limited to:

(1) Physical modifications to the leaking heat exchanger, such as welding the leak or replacing a tube;

(2) Blocking the leaking tube within the heat exchanger;

(3) Changing the pressure so that water flows into the process fluid;

(4) Replacing the heat exchanger or heat exchanger bundle;  
or

(5) Isolating, bypassing, or otherwise removing the leaking heat exchanger from service until it is otherwise repaired.

(e) If you detect a leak when monitoring a cooling tower return line or heat exchanger exit line under paragraph (a) of this section, you may conduct additional monitoring following the requirements in paragraph (a) of this section to further isolate each heat exchanger or group of heat exchangers in regulated material service within the heat exchange system for which the leak was detected. If you do not detect any leaks when conducting additional monitoring for each heat exchanger or group of heat exchangers in regulated material service, the heat exchange system is excluded from the repair requirements in paragraph (d) of this section.

(f) Unless otherwise specified by the referencing subpart, the delay of repair action level is defined as either a total strippable hydrocarbon concentration (as methane) in the stripping gas of 62 ppmv or a total strippable hydrocarbon concentration in the cooling water of 800 ppbw. If the repair action level is exceeded as specified under the referencing subpart or this paragraph, and unless specified otherwise in the referencing subpart, you may delay the repair of a leaking heat exchanger when one of the conditions in paragraphs (f)(1) or (f)(2) of this section is met. You must determine if a delay of repair is necessary as soon as practicable, but no later than 45 days after first identifying the leak.

(1) If the repair is technically infeasible without a shutdown and the total strippable hydrocarbon concentration is initially and remains less than the delay of repair action level for all monitoring periods during the delay of repair, you may delay repair until the next scheduled shutdown of the heat exchange system. If, during subsequent monitoring, the total strippable hydrocarbon concentration is equal to or greater than the delay of repair action level, you must repair the leak within 30 days of the monitoring event in which the total strippable hydrocarbon was equal to or exceeded the delay of repair action level.

(2) If the necessary equipment, parts, or personnel are not available and the total strippable hydrocarbon concentration (as methane) is initially and remains less than the delay of repair action level for all monitoring periods during the delay of repair, you may delay the repair for a maximum of 120 calendar days from the day the leak was first identified. You must demonstrate that the necessary equipment, parts, or personnel were not available. If, during subsequent monthly monitoring, the total strippable hydrocarbon concentration is equal to or greater than the delay of repair action level, you must repair the leak within 30 days of the monitoring event in which the leak was equal to or exceeded the total strippable hydrocarbon delay of repair action level.

(g) Unless otherwise specified in the referencing subpart, to delay the repair under paragraph (f) of this section, you must record the information in paragraphs (g)(1) through (4) of this section.

(1) The reason(s) for delaying repair.

(2) A schedule for completing the repair as soon as practical.

(3) The date and concentration of the leak as first identified and the results of all subsequent monitoring events during the delay of repair.

(4) An estimate of the potential emissions from the leaking heat exchange system following the procedures in paragraphs (f)(4)(i) and (ii) of this section.

(i) Determine the total strippable hydrocarbon concentration in the cooling water, in ppbw, using equation 7-1 from "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources," Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see §65.265).

(ii) Calculate the emissions for the leaking heat exchange system by multiplying the hydrocarbon concentration in the cooling water, ppbw, by the flow rate of the cooling water at

the selected monitoring location and by the expected duration of the delay. The flow rate may be based on direct measurement, pump curves, heat balance calculations or other engineering methods.

#### **Notifications, Reports and Records**

##### **§65.615 What notifications must I submit and when?**

If the referencing subpart requires that a notification of compliance status be filed, then, at a minimum, you must include the information specified in paragraphs (a) and (b) of this section in the notification of compliance status. The notification of compliance status shall be transmitted to the EPA's Central Data Exchange by using either electronic reporting software available from the EPA or in an electronic file format specified by the EPA. The notification of compliance status shall also be submitted to the delegated authority in the form and/or format specified by the delegated authority. The notification of compliance status must be signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard.

(a) The information specified in the referencing subpart.

(b) Identification of the heat exchange systems that are subject to the requirements of the referencing subpart.

##### **§65.620 What reports must I submit and when?**

Unless otherwise specified in the referencing subpart, you must report the information specified in paragraphs (a) through (f) of this section, as applicable, in the periodic report specified in the referencing subpart.

(a) The number of heat exchange systems in regulated material service.

(b) The number of heat exchange systems in regulated material service found to be leaking.

(c) A summary of the monitoring data that indicate a leak, including the number of leaks determined to be equal to or greater than the leak definitions specified in the referencing subpart.

(d) If applicable, the date a leak was identified, the date the source of the leak was identified and the date of repair.

(e) If applicable, a summary of each delayed repair, including the original date and reason for the delay and the date of repair, if repaired during the reporting period.

(f) If applicable, an estimate of total strippable hydrocarbon emissions for each delayed repair over the reporting period.

#### **§65.625 What records must I keep?**

Unless otherwise specified in the referencing subpart, for a heat exchange system subject to the requirements of this subpart, you must keep the records specified in paragraphs (a)

through (f) of this section and you must retain these records for 5 years.

(a) Identification of all heat exchangers at the facility and the measured or estimated average annual regulated material concentration of process fluid or intervening cooling fluid processed in each heat exchanger.

(b) Identification of all heat exchange systems that are in regulated material service. For each heat exchange system that is subject to this subpart, you must include identification of all heat exchangers within each heat exchange system, identification of the individual heat exchangers in regulated material service within each heat exchange system and for closed-loop recirculation systems, the cooling tower included in each heat exchange system.

(c) Identification of all heat exchange systems that are exempt from the monitoring requirements according to the provisions in §65.610(b) and the provision under which the heat exchange system is exempt.

(d) Results of the following monitoring data for each monitoring event:

(1) Date/time of event.

(2) Heat exchange exit line flow or cooling tower return line flow at the sampling location, gallons/minute.

(3) Monitoring method employed.

(4) If the "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources" Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see §65.265) is used according to §65.610(a)(3)(i):

(i) Barometric pressure.

(ii) El Paso air stripping apparatus water flow milliliter/minute (ml/min) and air flow, ml/min, and air temperature, °Celsius.

(iii) FID reading (ppmv).

(iv) Length of sampling period.

(v) Sample volume.

(vi) Calibration information identified in Section 5.4.2 of the "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources" Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see §65.265).

(5) If SW-846 Methods 5030B and 8260C or ASTM Method D5790-95 is used according to §65.610(a)(3)(ii):

(i) The type of detector used.

(ii) The list of target analytes.

(iii) The measured cooling water concentration for each of target analyte (ppbw).

(iv) The method detection limit for each analyte.

(v) Calibration and surrogate recovery information identified in the corresponding method.

(6) If an alternative method is used according to §65.610(a)(3)(iii):

(i) Specific citation for the test method used.

(ii) Analysis technique.

(iii) The list of target analytes.

(iv) The measured cooling water concentration for each of target analyte (ppbw).

(v) Calibration and surrogate recovery information identified in test method used.

(vi) Other records regarding the monitoring method or results as specified in the referencing subpart.

(e) The date when a leak was identified and the date when the heat exchanger was repaired or taken out of service.

(f) If a repair is delayed, the reason for the delay, the schedule for completing the repair and the estimate of potential emissions for the delay of repair.

#### **Other Requirements and Information**

**§65.630 What parts of the General Provisions apply to me?**

The General Provisions applicable to the referencing subpart apply to this subpart as specified in the referencing subpart. The provisions of subpart H of this part (General Provisions - Uniform Standards) also apply to this subpart. The provisions of subpart A of this part (General Provisions - Consolidated Federal Air Rule) do not apply to this subpart.

**§65.635 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA). If the EPA Administrator has delegated authority to a state, local or tribal agency, then that agency has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a state, local or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not transferred to the state, local or tribal agency.

(1) Approval of alternatives to the requirements in §65.610, under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90 and as required in this subpart.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90 and as required in this subpart.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90 and as required in this subpart.

**§65.640 What definitions apply to this subpart?**

All terms used in this subpart shall have the meaning given them in the Clean Air Act and in this section.

Cooling tower means a heat removal device used to remove the heat absorbed in circulating cooling water systems by transferring the heat to the atmosphere using natural or mechanical draft.

Cooling tower return line means the main water trunk lines at the inlet to the cooling tower before exposure to the atmosphere.

Heat exchange system means a device or collection of devices used to transfer heat from process fluids to water without intentional direct contact of the process fluid with the water (i.e., non-contact heat exchanger) and to transport and/or cool the water in a closed-loop recirculation system (cooling tower system) or a once-through system (e.g., river or pond

water). For closed-loop recirculation systems, the heat exchange system consists of a cooling tower, all heat exchangers that are serviced by that cooling tower and all water lines to and from the heat exchanger(s). For once-through systems, the heat exchange system consists of one or more heat exchangers servicing an individual process unit and all water lines to and from the heat exchanger(s). Intentional direct contact with process fluids results in the formation of a wastewater.

Heat exchanger exit line means the cooling water line from the exit of one or more heat exchangers (where cooling water leaves the heat exchangers) to either the entrance of the cooling tower return line or prior to exposure to the atmosphere or mixing with non-cooling water streams, in, as an example, a once-through cooling system, whichever occurs first.

In regulated material service means, unless specified otherwise in the referencing subpart, a heat exchanger that either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of regulated material (as defined in the referencing subpart) as determined according to the provisions of §65.270 of this part.

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